



# Rynite® FR530 BK507

## THERMOPLASTIC POLYESTER RESIN

Common features of Rynite® thermoplastic polyester include mechanical and physical properties such as excellent balance of strength and stiffness, dimensional stability, creep resistance, heat resistance, high surface gloss and good inherent electrical properties at elevated temperature. It can be processed over a broad temperature range and has excellent flow properties.

Rynite® thermoplastic polyester resins are typically used in demanding applications in the automotive, electrical and electronics, appliances where they successfully replace metals and thermosets, as well as other thermoplastic polymers.

Rynite® FR530 BK507 is a 30% glass reinforced, flame retardant, modified polyethylene terephthalate resin.

### Characteristics

Processing	Injection Molding
Additives	Flame retardant

### Product information

Resin Identification	PET-GF30FR(17)	ISO 1043
Part Marking Code	>PET-GF30FR(17)<	ISO 11469

### Rheological properties

Molding shrinkage, parallel	0.2 %	ISO 2944, 2577
Molding shrinkage, normal	0.8 %	ISO 2944, 2577

### Mechanical properties

Tensile Modulus	11300 MPa	ISO 5271/2
Stress at break	130 MPa	ISO 5271/2
Strain at break	1.9 %	ISO 5271/2
Flexural Modulus	10500 MPa	ISO 178
Flexural Strength	200 MPa	ISO 178
Charpy impact strength, 73°F	40 kJ/m <sup>2</sup>	ISO 179/1eU
Charpy impact strength, -40°F	30 kJ/m <sup>2</sup>	ISO 179/1eU
Charpy notched impact strength, 73°F	9 kJ/m <sup>2</sup>	ISO 179/1eA
Charpy notched impact strength, -40°F	8 kJ/m <sup>2</sup>	ISO 179/1eA
Poisson's ratio	0.33 -	

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### Thermal properties

Melting temperature, 18°F/min	252 °C	ISO 113571/3
Temp. of deflection under load, 260 psi	220 °C	ISO 751/2
Temp. of deflection under load, 65 psi	243 °C	ISO 751/2
Ball pressure test	230 °C	IEC 60695102
Coeff. of linear therm. expansion, parallel	22 E-6/K	ISO 113591/2
Coeff. of linear therm. expansion, normal	96 E-6/K	ISO 113591/2
Coeff. of linear therm. expansion, Normal, -40-23°C	68 E-6/K	ISO 113591/2
Coeff. of linear therm. expansion, Normal, 55-160°C	125 E-6/K	ISO 113591/2
Coeff. of linear therm. expansion, Parallel, -40-23°C	19 E-6/K	ISO 113591/2
Coeff. of linear therm. expansion, Parallel, 55-160°C	17 E-6/K	ISO 113591/2
RTI, electrical, 15mil	155 °C	UL 746B
RTI, electrical, 30mil	155 °C	UL 746B
RTI, electrical, 60mil	155 °C	UL 746B
RTI, electrical, 120mil	155 °C	UL 746B
RTI, impact, 15mil	155 °C	UL 746B
RTI, impact, 30mil	155 °C	UL 746B
RTI, impact, 60mil	155 °C	UL 746B
RTI, impact, 120mil	155 °C	UL 746B
RTI, strength, 15mil	155 °C	UL 746B
RTI, strength, 30mil	155 °C	UL 746B
RTI, strength, 60mil	155 °C	UL 746B
RTI, strength, 120mil	155 °C	UL 746B

### Flammability

Burning Behav. at 60mil nom. thickn.	V-0 class	IEC 606951110
Thickness tested	1.5 mm	IEC 606951110
UL recognition	yes -	UL 94
Burning Behav. at thickness h	V-0 class	IEC 606951110
Thickness tested	0.35 mm	IEC 606951110
UL recognition	yes -	UL 94
Burning Behav. 5V at thickness h	5VA class	IEC 606951120
Thickness tested	1.5 mm	IEC 606951120
UL recognition	yes -	UL 94
Oxygen index	33 %	ISO 45891/2
Glow Wire Flammability Index, 30mil	960 °C	IEC 60695212
Glow Wire Flammability Index, 40mil	960 °C	IEC 60695212





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Glow Wire Flammability Index, 60mil	960 °C	IEC 60695212
Glow Wire Flammability Index, 80mil	960 °C	IEC 60695212
Glow Wire Flammability Index, 120mil	960 °C	IEC 60695212
Glow Wire Ignition Temperature, 30mil	800 °C	IEC 60695213
Glow Wire Ignition Temperature, 60mil	800 °C	IEC 60695213
Glow Wire Ignition Temperature, 80mil	850 °C	IEC 60695213
Glow Wire Ignition Temperature, 120mil	925 °C	IEC 60695213
FMVSS Class	DNI -	ISO 3795 (FMVSS 302)
Railway classification	R23 -	EN 455452
Railway classification rating	HL1 -	EN 455452

### Electrical properties

Relative permittivity, 100Hz	4.1 -	IEC 6263121
Relative permittivity, 1MHz	3.7 -	IEC 6263121
Dissipation factor, 100Hz	309 E-4	IEC 6263121
Dissipation factor, 1MHz	127 E-4	IEC 6263121
Volume resistivity	>1E13 Ohm*m	IEC 6263131
Surface resistivity	1E14 Ohm	IEC 6263132
Comparative tracking index	200 -	IEC 60112
Comparative tracking index	2 PLC	UL 746A

### Other properties

Density	1680 kg/m <sup>3</sup>	ISO 1183
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### Injection

Drying Recommended	yes
Drying Temperature**	120 °C
Drying Time, Dehumidified Dryer	4 - 6 h
Processing Moisture Content	≤0.02 <sup>1</sup> %
Melt Temperature Optimum	280 °C
Min. melt temperature	270 °C
Max. melt temperature	290 °C
Max. screw tangential speed	0.2 m/s
Mold Temperature Optimum	110 °C
Min. mold temperature	100 °C
Max. mold temperature	120 <sup>2</sup> °C
Hold pressure range	≥80 MPa

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Hold pressure time  
Back pressure

4 s/mm  
As low as MPa  
possible

Ejection temperature

170 °C

1: At levels above 0.02%, strength and toughness will decrease, even though parts may not exhibit surface defects. 2: (6mm - 1mm thickness)

